THE SEED

JULY 1986
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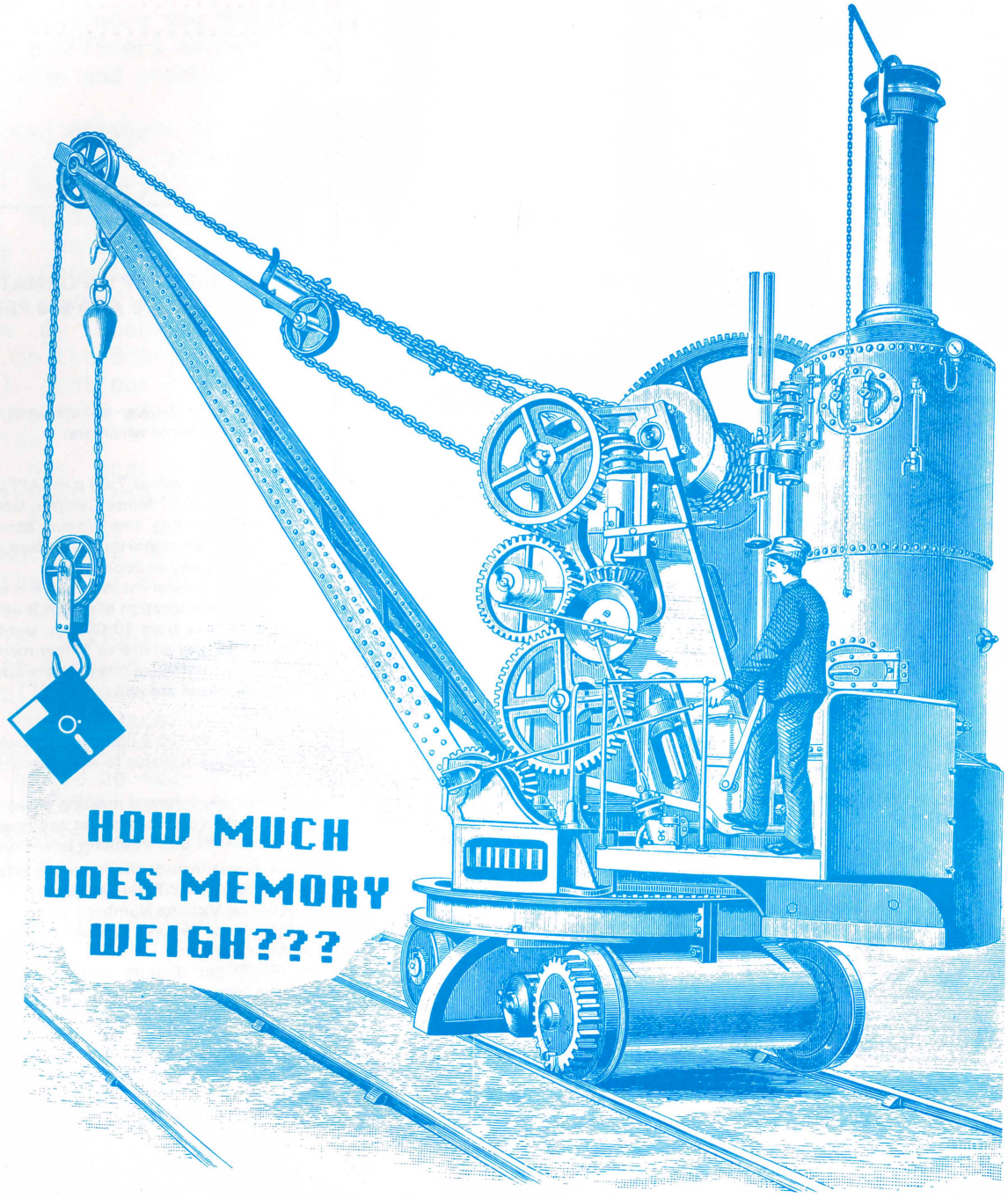
NEWSLETTER FOR APPLE PEOPLE

DENVER APPLE PI



denver apple pi Seed

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MEMBERSHIP INFORMATION
$10 APPLICATION FEE AND $18 PER YEAR DUES

APPLE PI is an Apple Computer Users Group - not affiliated with Apple Computer, Inc. - that provides many member benefits, some of which are:

MONTHLY MEETINGS-

On the first Thursday of each month at 7:00 p.m. APPLE PI holds its general meeting at the Greene Center, Colorado School of Mines Campus, Golden, Colorado. This meeting is a combination of an informational meeting, new product announcements, and a short business meeting. The members are given an opportunity to buy computer supplies a little above cost. Software products are given away as door prizes.

On the Sunday following the general meeting there is an informal meet which is usually held at the home of a member, the location of which is announced in the newsletter and at the general meeting. This meeting is from 10:00 a.m. until 3:00 p.m. and provides a more informal environment to seek or give advice to fellow members and get copies of programs from the APPLE PI Library. Both of these meetings are open to the general public but only members have access to products that are sold.

PROGRAM LIBRARY-

APPLE PI currently has a library of 8,000 programs. All current disks are in 16 sector (3.3, Pascal, CP/M) format and are available to any member. APPLE PI Members can obtain copies from the library:

1) By coming to the monthly informal meeting (swap meet);
2) By written request to the club librarian (at any meeting or by mail);
3) By electronic mail on APPLE PI's bulletin board system:

When requesting copies, please include the following information:

a) Your Name, Address, and Phone number;
b) Disk Category and Volume Number;
c) Blank Diskette(s) or request to utilize a new disk (member will be charged $2.50 for the new disk);
d) Copy fee ($1.00 per diskette side unless you donate a program you have written at the same time and fill out a Progam Submission Form). Only complete sides of disks will be copied.
e) Instructions on how the disks are to be returned, i.e., at the next meeting, by mail, etc. (IF RETURN IS TO BE BY MAIL PLEASE BE SURE TO INCLUDE A STAMPED, SELF-ADDRESSED FLOPPY DISK MAILER, AND $2.50 TO COVER SHIPPING COSTS).

DISK OF THE MONTH-

Each month a collection of some of the best programs donated to APPLE PI during the preceding month are made available. The DOM can be purchased at any group meeting or by mail.

DUES-

Current membership dues are $18.00 per year, with a one-time application fee of $10.00. Checks should be made payable to APPLE PI.

President'e Report

As the new officers for Apple Pi start their assorted duties, we wish to thank you for your continued support. We will continue the growth of the club over the next year with our new goals and ideas. Remember, Apple Pi is your organization. Your input is needed. The more active you are in the group, the more you can get out of Apple Pi. The officers and volunteers are here to help you and promote your best interest.

The new elected officers are: Roy Dean - President; Trent Hein - Vice-president; Randall Ansley - Secretary; and Bob Hein - Treasurer. The race for the Board of Directors opening was close. In fact, Tom Angelos and Bill Cronister tied for the position. Since, according to the Bylaws, I had to resign my Board position, they both won and are on the Board of Directors. Ed Thompson will continue his term on the Board of Directors. Ed will also continue his job as Librarian.

Chris Saxon has been appointed Sales Officer and Assistant Librarian. We wish Chris the best of luck. We are presently working on a Macintosh Librarian (more information on that issue next month). There will be a change is the BBS SYSOP. Steve Martin is resigning after three excellent years of service as SYSOP. Thank you Steve for all you've done. The new SYSOP will be Robert Racanskey. He will take over the BBS around the 1st of July. The new number will be 422-3716. Please give Robert your full support. However, there are still several appointed positions still available.

There have been problems with the SEED that are explained in another section of this issue. Needless to say, anyone who would like to contribute time, help, articles, or other services is greatly needed. You do not need to know about graphics and paste-up, all you need to have is an interest in producing a quality newsletter. Another easy way to help is to paste on labels and see that the SEED is mailed. Also, the positions of Publications Librarian, SIG (Special interest group) Director, Education, and others are open for volunteers. As always, any officer receives a FREE Disk of the Month, FREE membership dues while they serve, any supplies needed for their office, and an equal vote in the club organization. Think of how you might supply your expertise for just a few hours a month to enhance Apple Pi. If you would like to volunteer, contact any officer (those people in green shirts) or leave word on the BBS or the Hotline.

Which brings us to the answering service issue. Hopefully, the new changes will be a long range solution to an old problem. Instead of a professional answering service, there is a private line in my home. If I am available, I'll answer it personally. When I am not available, please leave a message on the answering machine and I will return your call ASAP. The new Hotline number is 422-0005. I hope you find this service to be both helpful and reliable. If you have any questions, concerns, or helpful hints, please use the new Hotline.

And on a final note, there will be some changes in the July meetings. The July 3rd meeting will be short (approx. 1 hour). There will be NO core-meeting on the following Sunday. These changes are due to conflicts with the 4th of July weekend. We apologize for any inconvenience this may cause. Remember, Apple Pi is YOUR club. Only you can help us serve you better by contributing your talents and information to Apple Pi.

Roy Dean

denver apple pi

Treasurer's Report

ENDING CASH BALANCE 4/30/86		$3395.11
INCOME		
New Members		84.00
Renewal Members		36.00
DOM Sales		105.00
Library Copies		0.00
Sales of Supplies		582.00
Store Memberships		0.00
Interest Earned		17.45
TOTAL INCOME		**$824.45**
EXPENSES		
Supplies for Resale		0.00
Hot Line		50.00
CSM Room Rental (Dec,Jan,Feb, Mar,May,June)		1020.00
Printing Costs		0.00
Postage		21.58
Supplies and Copies		0.00
BBS Expense		0.00
State Sales Tax		0.00
Equipment Purchase (Printer, answering machine)		335.54
Equipment Rental		0.00
P.O. Box rental		26.50
TOTAL EXPENSES		**$1453.62**
ENDING CASH BALANCE 5/31/86		**$2765.94**
ASSETS	5/31/86	
Cash on Hand		25.00
Cash in Bank		2765.94
Inventory for Resale		1405.95
Prepaid Expenses		384.40
Accounts Receivable		38.00
Equipment	No Value Set	
Total Assets		**$4619.29**
LIABILITIES		
Sales Tax Accrued		68.47
Accounts Payabale		0.00
Total Liabilities		**$68.47**
NET WORTH OF CLUB (Minus Equipment)		**$4550.82**

Next Meeting

July 3rd

No Core meet in July

NEW

BBS PHONE NUMBER

422 - 3716

NEW

HOT LINE

422 - 0005

Green Apples

If you like the way AppleWorks asks you YES/NO questions, then you will like this month's Green Apples program. This little subroutine will let you put an AppleWorks-type yes/no menu into your BASIC programs.

Here is how it works. When your program jumps to the subroutine your message (stored in the string variable 'QN$') will be centered on the screen on a line determined by what value is stored in the variable 'V'. In the program below, both QN$ and V are set in line 100. Line 200 jumps to the subroutine. The message is displayed with YES/NO on the right side. The word 'YES' is in inverse. Seven characters from the keyboard can be used. Upper and lower case "Y" and "N", the right and left arrow keys and the RETURN key are the only keys that are accepted; all other keys will result in a 'beep'. If the user presses a "Y" or a "y" then the variable 'Q' will hold a '1' and the program will be RETURNed to the calling point. Your program can then test for a YES response by using an IF/THEN like this: num IF Q THEN 1000. If Q is holding a '1' the branch will take place. If Q = 0 then the program will not branch. To get a 0 stored in 'Q' the uses would press an 'N' or an 'n' when the question is asked. The user may also use the arrow keys to inverse the YES or the NO and then press the RETURN key to RETURN from the subroutine with the proper answer.

Let's take a look at the code. Line 100 clears the screen and sets the VTAB and message. Line 1000 prints the message with a highlighted 'YES' and sets Q = 1. Line 1010 prints the message with a highlighted 'NO' and sets Q = 0. Line 1020 looks at the keyboard to see if a key was pressed. Line 1030 tests to see if a RETURN was pressed and if so will branch to line 1100. Line 1040 tests to see if a 'Y' or a 'y' was pressed and if so sets Q = 1 and branches to 1100. Line 1050 tests for an 'N' or an 'n'. Line 1060 tests for a left arrow key and if a left arrow was pressed the program branches to the line of code that prints the message with the highlighted 'YES'. Line 1070 tests for a right arrow key to branch to print the message with a highlighted 'NO'. Line 1080 tests for all other keys and if found will beep the bell. Line 1090 branches to the line that looks at the keyboard and starts all the process over again. Line 1100 clears the keyboard buffer and RETURNs from the subroutine.

Well, there you have it eleven lines of code that can make your programs look a little more polished.

```
100  HOME :V = 12:QN$ = "IS THIS
     CORRECT ???"
200  GOSUB 1000
300  REM  ......BACK TO PROGRAM



1000  VTAB V: HTAB 40 - (( LEN (
     QN$) + 8) / 2): PRINT QN$;"
      ";: INVERSE : PRINT "YES";:
      NORMAL : PRINT "/NO":Q = 1:
      GOTO 1020
1010  VTAB V: HTAB 40 - (( LEN (
     QN$) + 8) / 2): PRINT QN$;: PRINT
     "  YES/";: INVERSE : PRINT "
     NO": NORMAL :Q = 0
1020  LET X =  PEEK (49152)
1030  IF X = 141 THEN 1100
1040  IF X = 217 OR X = 249 THEN
     Q = 1: GOTO 1100
1050  IF X = 206 OR X = 238 THEN
     Q = 0: GOTO 1100
1060  IF X = 136 THEN 1000
1070  IF X = 149 THEN 1010
1080  IF X > 127 THEN  POKE 4916
     8,0: PRINT  CHR$ (7)
1090  GOTO 1020
1100  POKE 49168,0: RETURN
```

Dear John

JOHNNY APPLESEED

Dear John,

When I was growing up I learned that computers had to be kept at low temperatures to work. If a computer room was not air conditioned then the computer would not give you the correct output. How is it that micro computers do not meed to be air conditioned to work?

Hot Stuff

Dear Hot,

In the old days computers used vacuum tubes as the memory gates (binary switch) that kept track of what is going on. Vacuum tubes use a filament, much like a light bulb, that gets the whole thing working. This filament also generates heat. Thousands of tubes make a lot of heat and thus meeded to be cooled or problems would happen, sort of a memory melt down. Today computers use chips to do the same thing as the tubes. One chip can replace thousands of tubes making the computers much smaller and much cooler. Chips still do get hot abd if you have a computer with lots of memory on board you may want to put in a fan (like a System Saver).

John

Dear John,

How come sometimes my Apple gives me the wrong answer to math problems?

Stumped

Dear Stumped,

Computers, like everyting in life, have limmits. A computer is designed to do math operations but can omly go just so far as to the decimals accuracy. When a computer gives you a wrong answer it may be because of this decimal limit that computer folks call precision error. Try this:

```
10  PRINT 7 * 7
RUN
49
```

Now try this:

```
10  PRINT 7 ^ 2
RUN
49.0000001
```

Were did that .0000001 come from? Without going into detail about how the computer does math lets just say that the limit was hit. There are many ways around this problem I will give you one fix.

```
10  LET X = 7 ^ 2
20  LET X = INT( X )
```

This will chop off the .0000001. If you want to allow some decimals then do this:

```
10  LET X = 7 ^ 2
20   LET  X  =  X  *  100  :REM MOVE 2
DECIMAL PLACES
30  LET X = INT( X )
40   LET X = X / 100  :REM MOVE BACK 2
DECIMAL PLACES
```

John

Send your questions to:

DEAR JOHNNY APPLESEED
C/O DENVER APPLE PI SEED
P.O. BOX 17467
DENVER, CO 80217

Librarian's Report

Though we only sold 26 copies, the June DOM consisting of 4 arcades was a lot of fun and well received by all. At the core meet we made 49 copies, had demonstrations of Fontrix and Newsroom by our President, and had a really good time!

Since summer is here and we are all ready for something light, the July DOM has 6 games. On account of health and fatigue (I'm sick and tired of it) I will only briefly describe the DOM here !

To combat sports withdrawal, the first game is a text version of NFL Football. The second is Galactic Empires which is the Alien game of the month. Third is Gambler which is a multi-dimensional game of chance. Fourth is Lost Dutchman's Gold, a classic text adventure game. The fifth is The Dragon and the Princess which is a low-res adventure arcade with some simple but fun graphics effects. Last but probably best is Voyageur, a high-res version of the trader adventure game. Really, trust me, these games have socially redeeming value. No killer eyeballs this month.

On the back side of the DOM we have Concierge which is an expert system implementation of Monopoly. It consists of a data base, a rule base, and an 'inference engine'. It uses a quite sophisticated and extremely aggressive set-average maximum rental income analysis approach. The program presents the human player with alternate courses of action and advice regarding dangers and opportunities that await the next throw of the dice. Enjoy Concierge!

About 30 disks have been added to the library recently. Some are discussed elsewhere in the Seed, and I will try to give a better rundown next month. For the moment I can say we have the Dos text editor called Zipscript, The Video Librarian, The Diskette Librarian, The Music Maker, The Librarian (a dewey decimal system for book libraries), Blankenship Basic 2.6, and many other programs. If you don't see it elsewhere, there will not be a core meet in July. See you at the General Meeting on July 3.

Ed Thompson, Librarian

Seed Needs Editor

If you like to read and write and you love to play with your Apple computer then think about becoming the Editor of the Apple Pi Seed. You will be part of a great bunch of officers. You will not need to do paste up or printing.

Contact any officer if you would like to be Editor or just help.

BASIC UNDER PRODOS

Telling Time in ProDOS

(or when the big hands points to...)

How does ProDOS tell Time?

As you might have known, ProDOS has the capabilities of working with certain clock cards. It uses the clock card to "Time Stamp" or "Date" files whenever they are created or changed. Exactly how does it do this? ProDOS sets aside four memory locations (49040-49043) called the TIME/DATE for storing the date and time. The year, month, and day are stored in the first two locations, the hour in the third, and the minutes in the fourth. More about this later. Since ProDOS does all of this for us, I thought it would be nice to be able to use the time and date values from an Applesoft BASIC program. Hence the creation of GET.TIME.

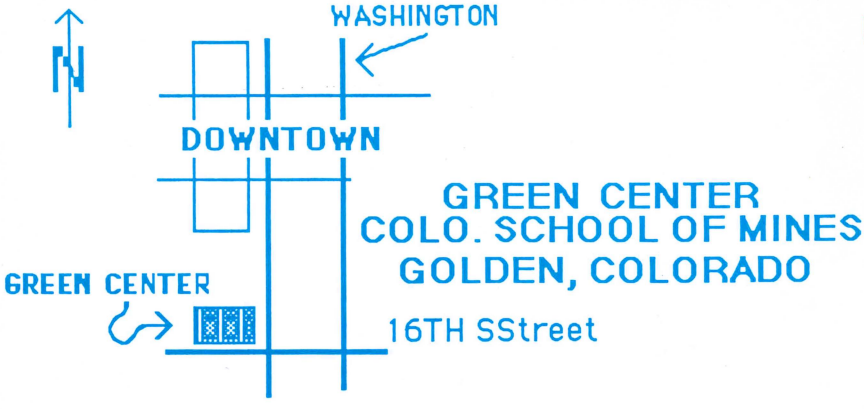
But I don't have a clock card.

Even if your system does not have a clock, you can still use the TIME/DATE locations. Many programs, such as AppleWorks, allow you to preset the date and time in the TIME/DATE locations so that ProDOS can use them to "Time Stamp" files. The program listing will show you how to set the TIME/DATE locations and then read them at a later time.

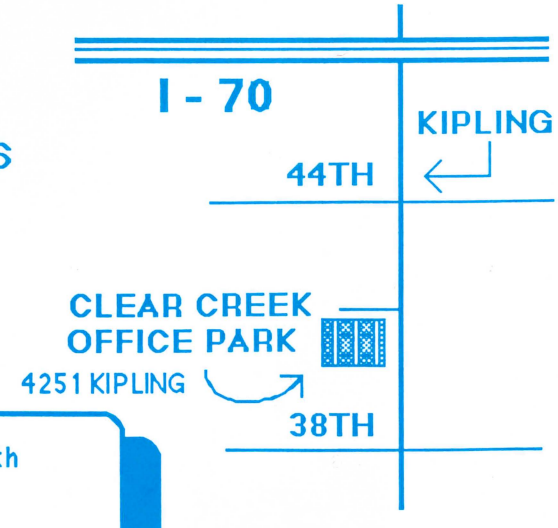
Ok, so what happens if I do have a clock card?

Well, whenever you execute the ProDOS system file (i.e. boot a ProDOS Disk), it checks each of the slots for a clock card. If one is found then ProDOS sets up a small program to read the clock values and store them in the TIME/DATE locations. This small program is called a Clock Driver. Now here is where the catch is, ProDOS ONLY updates the TIME/DATE locations occasionally. That is, whenever IT changes the information on the disk (i.e. while SAVEing or DELETEing a file). So, how do you get ProDOS to update the TIME/DATE locations without

GENERAL MEETING



CORE MEET



GENERAL MEETING 7:00 PM first Thursday of each month

CORE MEET 10:00 to 3:00 Sunday after General Meeting

BASIC UNDER PRODOS

changing something on the disk? Well, we'll have to resort to a small machine language program to ask ProDOS to update the TIME/DATE locations for us. This small machine language program should be called prior to reading the TIME/DATE locations.

So, what does GET.TIME do?

First of all, the program determines if you have a ProDOS compatible clock in your computer. If your system does have a clock, then the program will show you how to read the TIME/DATE locations and how to ask ProDOS to update the TIME/DATE locations just before you read them. If your system does not have a clock then the program will show you how to ask the user for the date and time and then set the TIME/DATE locations. You can then read the locations and find out the date and time at a later point. (Note: If you do not have a clock, the locations will remain the preset time for as long as ProDOS is running.)

The program listing is well documented but let me make some additional comments.

If a ProDOS clock is found then a Clock Present Flag (CP%) is set to 1 (Line 1050). Then a a small machine language program is installed at locations 768 through 775 (Lines 1350,1360) Finally, Line 340 calls the machine language program to get ProDOS to update the TIME/DATE locations prior to reading.

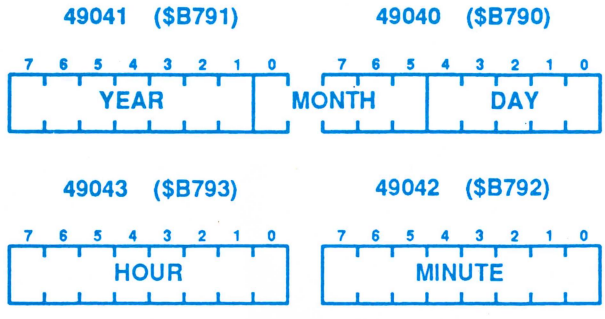
If a clock is NOT found then the Clock Present Flag is set to 0 (Line 1040); lines 1130,1180 asks the user for the date and time and lines 1200,1230 preset the TIME/DATE locations with these values. Finally, the subroutine at 3000

GET.TIME Program Listing

```
 50  REM  ************************************************
 51  REM  *
 52  REM  *  Program: GET.TIME  Version 1.0
 53  REM  *
 54  REM  *  Written by Dr. Arthur S. Cranston, Jr
 55  REM  *
 56  REM  *  This program demonstrates how to fetch the
 57  REM  *  time from a ProDos compatible clock in an
 58  REM  *  Applesoft Basic Program.
 59  REM  *
 60  REM  ************************************************
 61  REM
100  REM  ------------------------------------------------
110  REM  Subroutine 1000:   Checks to see if there is a
120  REM    ProDos Clock.  If there isn't a clock then
130  REM    it asks the user for the Date/Time and sets
140  REM    up the Date/Time locations.  If there is a
150  REM    clock then it sets up small machine language
160  REM    program at $300 that commands ProDos to
170  REM    update the Date/Time locations when called.
180  REM
190  REM    Returns:   CP%=0   (No Clock Present)
200  REM               CP%=1   (Clock Present)
210  REM
220  REM  ------------------------------------------------
230  REM
240  GOSUB 1000
250  REM
260  REM  ------------------------------------------------
270  REM  Here is the routine that displays Date/Time
280  REM  ------------------------------------------------
290  REM
300  HOME
310  IF CP% = 0 THEN  PRINT "There is NO Clock."
320  IF CP% = 1 THEN  PRINT "There is a Clock."
330  IF CP% = 1 THEN  PRINT "(P.S. Type a Control-C to
       End.)"
340  IF CP% = 1 THEN  CALL 768: REM  Update Date/Time
350  GOSUB 3000: REM  Read Date & Time into DT$ and TM$
360  VTAB 4: PRINT "The Date is ";DT$
370  VTAB 5: PRINT "The Time is ";TM$
380  IF CP% = 1 THEN 340:REM Continue updating Date/Time
390  END
1000 REM ************************************************
1010 REM    Check to see if a ProDOS Clock is present
1020 REM ************************************************
1030 REM
1040 IF  PEEK(48902) = 96 THEN CP% = 0: REM No Clock
1050 IF  PEEK(48902) = 76 THEN CP% = 1: REM Clock
1060 IF CP% = 0 THEN 1100: REM  Ask user for Date/Time
1070 IF CP% = 1 THEN 1300: REM  Install GET_TIME Sub
1080 REM
1100 REM  ------------------------------------------------
1110 REM    No clock is present so ask for Time & Date
1115 REM    and then set Time/Date locations 49040-49043
```

BASIC UNDER PRODOS

```
1120  REM  ------------------------------------------
1130  REM
1140  HOME
1150  INPUT "What year (00-99) ";YR
1160  INPUT "What Month (1-12) ";MN
1170  INPUT "What Day (1-31) ";DY
1180  INPUT "What Hour (0-23) ";HR
1190  INPUT "What Minute (0-60) ";MI
1195  REM  ---- Set TIME/DATE Locations ----
1200  POKE 49040,(MN - (8 * (MN > 7))) * 32 + DY
1210  POKE 49041,(YR * 2) + (MN > 7)
1220  POKE 49042,MI
1230  POKE 49043,HR
1240  RETURN
1300  REM  ------------------------------------------
1310  REM  Installs small machine language program at 768
1320  REM  Asks the MLI to do a GET_TIME routine
1330  REM  ------------------------------------------
1350  FOR I = 768 TO 775: READ K: POKE I,K: NEXT I
1360  DATA  32,00,191,130,07,03,96,0
1370  RETURN
3000  REM  ******************************************
3010  REM    Read Time/Date into YR/MN/DY & HR/MI
3020  REM    from Locations 49040 -- 49043.
3030  REM  ******************************************
3050 YR =  INT ( PEEK (49041) / 2)
3060 MN = 8 * (PEEK(49041) - 2 * YR)+INT(PEEK(49040)/ 32)
3070 DY =  PEEK(49040) - 32 *  INT(PEEK(49040) / 32)
3080 MI =  PEEK(49042)
3090 HR =  PEEK(49043)
3110  REM  ------------------------------------------
3120  REM   Create MN$/DY$/YR$ & HR$/MI$ from YR/MN/DY/HR/MI
3130  REM   then create DT$ (Date) & TM$ (Time)
3140  REM  ------------------------------------------
3160 MN$ =  RIGHT$ (" " +  STR$ (MN),2)
3170 DY$ =  RIGHT$ (" " +  STR$ (DY),2)
3180 YR$ =  STR$ (YR)
3190 HR$ =  RIGHT$ (" " +  STR$ (HR),2)
3200 MI$ =  RIGHT$ ("0" +  STR$ (MI),2)
3210  REM
3220 DT$ = MN$ + "/" + DY$ + "/" + YR$
3230 TM$ = HR$ + ":" + MI$
3240  RETURN
```



DATE/TIME LOCATIONS

shows you how to read the TIME/DATE locations and set up a date variable (DT$) and time variable (TM$). One last note, in several areas (300,370 & 1040, 1060) poor programming practices were employed to simplify the flow of logic. (Welcome to BASIC!!!)

How is the date and time stored?

As I promised, at the end of the program listing is a diagram showing how the time and date are stored in the the TIME/DATE locations.

What exactly is that small machine language program at 768.

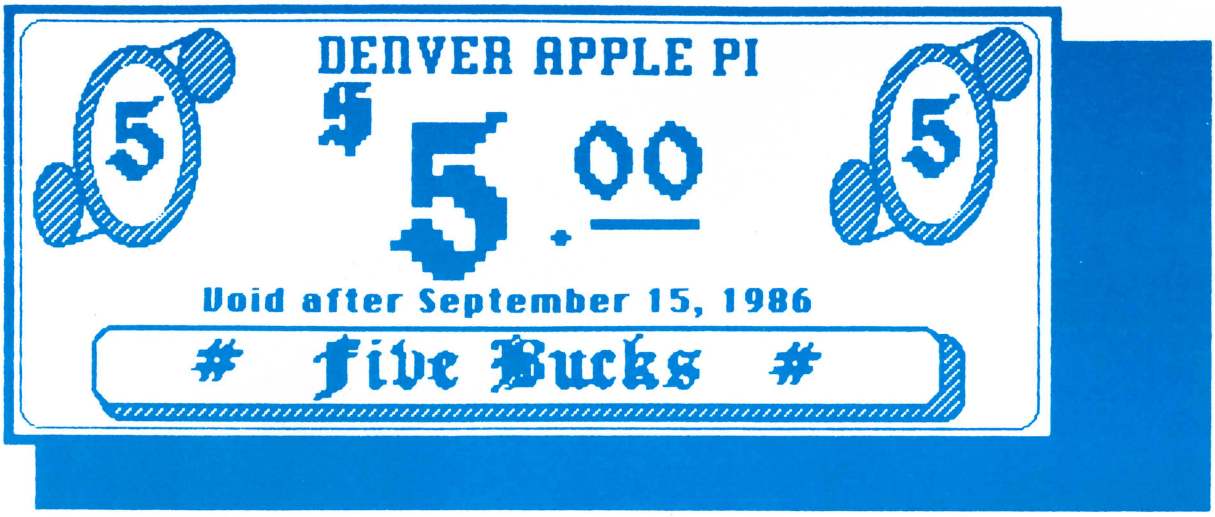
When called, this machine language program asks ProDOS to read the clock and update the TIME/DATE locations. For those interested, the machine language program asks ProDOS via the machine language interface to do a GET_TIME.

Let me conclude this article by explaining what I would like to cover in this column each month. I hope to take a particular facet of ProDOS and show how it is used with Applesoft BASIC. These columns will probably be slanted towards the beginning to intermediate BASIC programmer and I hope you find them informative.

—Arthur S. Cranston, Jr.

For further information:

ProDOS Technical Reference Manual from Addison Wesley Publishing
Beneath Apple ProDOS from Quality Software



Use this Apple Pi Five Dollar bill as a new member to save $5.00 on your new membership to Denver Apple Pi.

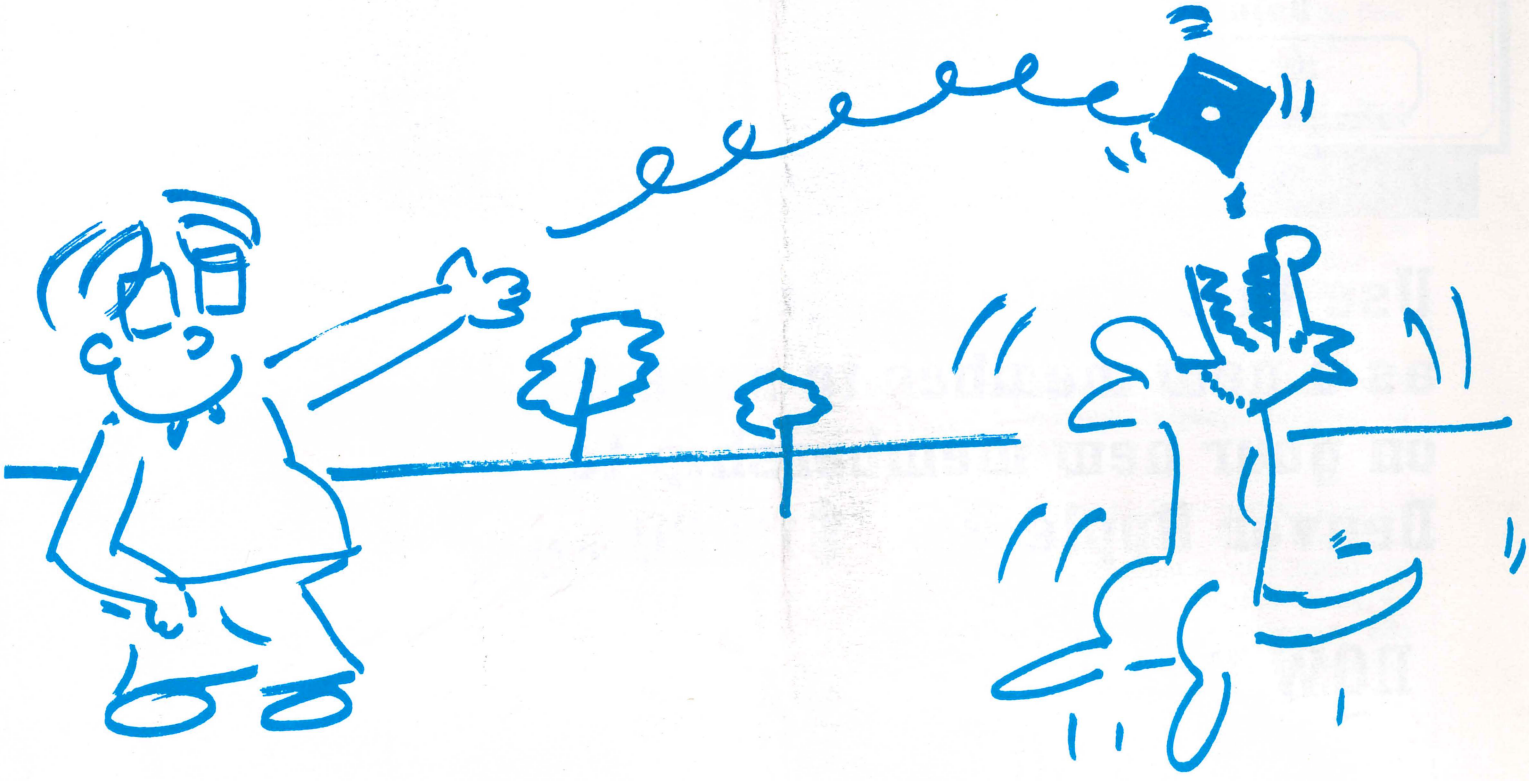
$18.00 dues
10.00 application
$28.00

NOW ONLY $ 23.00

If you are a member now send in this five bucks and a ckech for onlg $13.00 and your Apple Pi membership will be extended one full gear !!!!

MUST BE INBY Sept. 15th

HAVE A GREAT SUMMER



THE SEED

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